

REMARKS

The Examiner has rejected claims 36-51 under 35 U.S.C. 112, first paragraph, for the reasons stated in the office action. It is respectfully submitted that the rejection has been overcome by the instant amendment. Claim 36 has been amended to correct a typographical error. The incorrect term "styrenic copolymer" has been amended to the proper "styrenic block copolymer" as supported throughout the specification and claims. It is therefore respectfully submitted that the rejection has been overcome.

The Examiner has rejected claims 11 and 46-51 under 35 U.S.C. 112, second paragraph, as being indefinite. It is respectfully submitted that the rejections have been overcome by the instant amendment. Claim 11 has been amended to delete the words "such as". Regarding claim 46, proper antecedent support is now present due to the above amendment to independent claim 36. It is therefore respectfully submitted that each of the 35 U.S.C. 112 rejections have been overcome, and the claims are now in full compliance with the requirements of 35 U.S.C. 112.

The Examiner has rejected claims 36-51 under 35 U.S.C. 102(b) as being anticipated by European patent EP 857,758 to Ikeda et al. It is respectfully submitted that the rejection has been overcome by the instant amendment. Claim 36 has been amended to limit the styrenic block copolymer component of the claimed adhesive compositions. Ikeda et al. does not teach the adhesive compositions as amended.

The invention provides an adhesive composition comprising an adhesive combination of at least one tackifier, at least one ethylene/alpha-olefin copolymer and at least one styrenic block copolymer, which styrenic block copolymer consists essentially of a styrene/ethylene ethylene-propylene random/styrene block copolymer, a styrene/butadiene/styrene block copolymer, a styrene/ethylene butylene random/styrene block copolymer, a styrene/isobutylene/styrene block copolymer, a

styrene/isoprene/styrene block copolymer or a styrene/hydrogenated butylene/styrene block copolymer. This adhesive composition obtains excellent bond strength between a fluoropolymer layer and a thermoplastic polymer layer or another fluoropolymer layer.

Ikeda et al. teaches an adhesive composition which includes a modified hydrogenated block copolymer, a tackifier, and optionally an ethylenic polymer that may be an ethylene- α -olefin copolymer. Specifically, the adhesive composition of Ikeda et al. requires a block copolymer which is both modified and hydrogenated. As described on page 4, line 25 through page 5, line 31, Ikeda et al. teaches the hydrogenation of a block copolymer of a vinyl aromatic compound and a conjugated diene compound, followed by modification with an unsaturated carboxylic acid or a derivative thereof by graft polymerization. The reference describes a mandatory amount of 0.01% to 20% by weight of the required grafted unsaturated carboxylic acid or a derivative thereof, wherein amounts less than 0.01% by weight yields an unacceptable adhesive property and amounts greater than 20% by weight also yields an unacceptable adhesive property, as well as causing inferior moldability and a deteriorated external appearance of their product.

It is respectfully submitted that the reference does not teach the adhesive compositions of the presently claimed invention, and such has been specified by the instant amendment. More particularly, the styrenic block copolymers incorporated in the adhesive compositions of Ikeda et al are different than those used in the adhesive compositions of the presently claimed invention. Consequently, the applied reference fails to anticipate the claimed adhesive compositions. For these reasons, it is respectfully requested that the rejection be withdrawn.

The Examiner has rejected claims 36-51 under 35 U.S.C. 102(b) as being anticipated by JP 09-302,319 to Sato et al. It is respectfully submitted that the rejection has been overcome by the instant amendment. Claim 36 has been amended to limit the styrenic

block copolymer component of the claimed adhesive compositions. Sato et al. does not teach the adhesive compositions as amended.

Sato et al. teaches specific hot melt adhesive compositions containing a specific ethylene- α -olefin copolymer, a styrene-ethylene-propylene-styrene (SEPS) block copolymer and a tackifier. Their hot melt adhesive composition is used in the manufacture of sanitary goods such as disposable diapers and sanitary napkins. Sato et al. describes their adhesive compositions having special properties that are an improvement over their prior art in the art of sanitary goods, which special properties are only achieved by their particularly described compositions. Specifically, the adhesive compositions of Sato et al. achieve the desired properties only by using their particularly disclosed ethylene- α -olefin copolymers in conjunction with a styrene-ethylene-propylene-styrene block copolymer. As discussed in the last paragraph on page 5 of the JP 09-302,319 machine translation, only SEPS has a compatible chemical structure with their necessary ethylene- α -olefin copolymers, whereas other styrenic block copolymers, such as styrene-isoprene-styrene (SIS) block copolymers, styrene-butadiene-styrene (SBS) block copolymers and styrene-ethylene-butylene-styrene (SEBS) block copolymers, etc., are specifically described as unacceptable for achieving the necessary adhesive properties in their formulation.

As has been specified through the instant amendment, styrene-ethylene-propylene-styrene block copolymers are within the scope of the claimed invention. Particularly, the adhesive compositions of the invention include a styrenic block copolymer which consists essentially of a styrene/ethylene ethylene-propylene random/styrene block copolymer, a styrene/butadiene/styrene block copolymer, a styrene/ethylene butylene random/styrene block copolymer, a styrene/isobutylene/styrene block copolymer, a styrene/isoprene/styrene block copolymer or a styrene/hydrogenated butylene/styrene block copolymer. Accordingly, it is respectfully submitted that the Sato et al. reference fails to anticipate the claimed adhesive compositions. For these reasons, it is respectfully requested that the rejection be withdrawn.

The Examiner has rejected claims 1-35 and 52-61 under 35 U.S.C. 103(a) over U.S. 2004/0197567 to Tsai et al. in view of Ikeda et al. It is respectfully submitted that the rejection is not well taken.

The invention provides multilayered films comprising a fluoropolymer layer attached to a thermoplastic polymer layer via an intermediate adhesive tie layer, which adhesive tie layer comprises an adhesive combination of at least one tackifier, at least one ethylene/alpha-olefin copolymer and at least one styrenic block copolymer. The adhesive composition adheres layers of such dissimilar polymeric materials that are otherwise incompatible, and achieves a significantly improved interlayer bond strength between fluoropolymer and thermoplastic polymer layers as compared to the art. See, for example, Example 2 on page 25 of the specification, which illustrates a PCTFE/tie/COC film structure having a superior bond strength of 1860 g/inch. See also Example 3 on page 26 of the specification which illustrates another PCTFE/tie/COC film structure having a superior bond strength of 1720 g/inch.

As discussed above, Ikeda et al. teaches a specific adhesive composition which includes a modified and hydrogenated block copolymer, a tackifier, and optionally an ethylenic polymer that may be an ethylene- α -olefin copolymer. Among the specific requirements for the adhesive composition of Ikeda et al. is a mandatory amount of 0.01% to 20% by weight of a grafted unsaturated carboxylic acid or a derivative thereof, wherein amounts outside those ranges yield unacceptable adhesive properties as well as causing inferior moldability and a deteriorated external appearance of their product.

Tsai et al. discloses multilayer moisture barrier films useful as packaging materials. More particularly, Tsai et al. describes multilayer barrier films that comprise a fluoropolymer layer attached to a cyclic olefin polymer layer via an adhesive tie layer which adhesive comprises a polyurethane, an epoxy or at least one functionalized polyolefin composition. As the Examiner acknowledges, Tsai et al. fails to disclose the adhesive compositions of

the presently claimed invention. More specifically, Tsai et al. fails to teach an adhesive comprising a styrenic block copolymer, a tackifier and an ethylene- α -olefin copolymer.

To fill this void, the Examiner has applied Ikeda et al. Ikeda et al. is discussed in detail above. It is respectfully submitted that the Examiner has improperly combined the references. Ikeda et al. does not describe film structures that include a fluoropolymer layer. Moreover, while Tsai et al. does describe fluoropolymer layer containing multilayer film structures, their structures incorporate a specialized adhesive tie layer composition that is very different than the adhesive compositions described by the claimed invention. Importantly, there is no teaching or suggestion in either reference to combine the multilayer films disclosed by Tsai et al. with the adhesive compositions described by Ikeda et al.

Particularly, there is no evidence in the Ikeda et al. reference that their adhesive compositions would even be compatible with fluoropolymer, let alone be sufficient to adhere fluoropolymer layers with other polymeric layers. As the Tsai et al. reference exemplifies, it is difficult to achieve a strong bond between fluoropolymer layers and other non-fluoropolymer layers. While the Tsai et al. reference requires a specialized adhesive composition to attach the individual polymer layers of their multilayer films, they are only able to achieve interlayer bond strengths of between 580 grams/inch to 600 grams/inch. See, for example, paragraph 33, wherein Tsai et al. discloses the bond strength of their PCTFE/tie/COC films as having interlayer bond strengths of between 580 grams/inch to 600 grams/inch per the ASTM F904 testing method. Utilizing the identical ASTM F904 testing method, the multilayer fluoropolymer films of the presently claimed invention achieve bond strengths nearly three times achieved by Tsai et al. See, for example, Examples 2 and 3 of the presently claimed invention which describe PCTFE/tie/COC films having bond strengths of 1860 g/inch and 1720 g/inch, respectively. The multilayer fluoropolymer films of the invention therefore have superior delamination resistance over the multilayer fluoropolymer films of the Tsai reference. It is respectfully submitted that the Examiner has not given adequate weight to this

important evidence. Accordingly, it is respectfully submitted that one skilled in the art would not look to the Ikeda et al. reference in combination with the Tsai et al. reference to arrive at the presently claimed invention.

Applicants submit that the Examiner is looking beyond the teachings of the references. The belief that one skilled in the art **could** form the claimed multilayered film does not suggest that one **should** form such a film to obtain the disclosed benefits. The mere fact that references **can** be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Such a suggestion is absent in each of the references.

In determining a *prima facie* case of obviousness, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification. *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). To do so, the applied prior art must be such that it would have provided one of ordinary skill in the art with both a motivation to carry out the claimed invention and a reasonable expectation of success in doing so. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). The Ikeda et al. and Tsai et al. references fail to provide such motivation.

It is further respectfully submitted that the Examiner is reconstructing the art in light of Applicants' disclosure. The point in time that is critical for an obviousness determination is at the time the invention. "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir.

1983). Obviousness cannot be established by hindsight combination to produce the claimed invention. *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). It is the prior art itself, and not the Applicants' achievement, that must establish the obviousness of the combination. Where Applicants' teachings are needed to find the invention, the invention is not obvious.

In the instant case, the motives in the references, as disclosed by the practices therein, are quite different from those in the instant invention. "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *In re Geiger*, 2 U.S.P.Q.2d 1276, 1278 (CAFC 1987). There is simply nothing in the cited references to suggest to someone skilled in the art that these teachings should be combined in order to achieve this result.

The Examiner has failed to show the linchpin to connect the art and has failed to show a suggestion in the art rather than from an unsupported subjective conclusion, to form the claimed structure. The ancient argument that a building design is not obvious in view of a pile of bricks and mortar from which it is constructed, is equally applicable here. Citing references that merely indicate that isolated parts recited in the claims are known is not a sufficient basis for a conclusion of obviousness; there must be something that suggests the desirability of combining the references in a manner calculated to arrive at the claimed invention. *Ex parte Hiyamizu*, 10 U.S.P.Q.2d 1393, 1394 (PTO Bd. Pat. Ap. and Int., 1988).

In addition, in determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schneck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983). It is

respectfully asserted that the invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

For the foregoing reasons, it is respectfully submitted that the claims are not obvious in view of the Tsai et al. and Ikeda et al. references, either alone or in combination. It is therefore requested that the rejection be withdrawn.

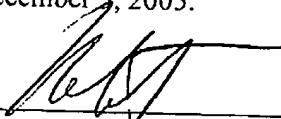
The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the Examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



Richard S. Roberts
Reg. No. 27,941
P.O. Box 484
Princeton, New Jersey 08542
(609) 921-3500
Date: December 5, 2005

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office (FAX No. 571-273-8300) on December 5, 2005.



Richard S. Roberts
Reg. No. 27,941